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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/034,726	12/19/2001	James R. H. Challenger	AUS920010856US1	2131
65362	7590	02/10/2011		
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AUSTIN, TX 78720				
EXAMINER				
SWEARINGEN, JEFFREY R				
ART UNIT		PAPER NUMBER		
2445				
NOTIFICATION DATE		DELIVERY MODE		
02/10/2011		ELECTRONIC		

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UNITED STATES PATENT AND TRADEMARK OFFICE

BEFORE THE BOARD OF PATENT APPEALS
AND INTERFERENCES

Ex parte JAMES R. H. CHALLENGER, GEORGE P. COPELAND, ARUN
K. IYENGAR, and MARK H. LINEHAN

Appeal 2009-007778
Application 10/034,726¹
Technology Center 2400

Before HOWARD B. BLANKENSHIP, JAY P. LUCAS, and JOHN A.
JEFFERY, *Administrative Patent Judges*.

LUCAS, *Administrative Patent Judge*.

DECISION ON APPEAL²

¹ Application filed December 19, 2001. The real party in interest is IBM Corp.

² The two-month time period for filing an appeal or commencing a civil action, as recited in 37 C.F.R. § 1.304, or for filing a request for rehearing, as recited in 37 C.F.R. § 41.52, begins to run from the “MAIL DATE” (paper delivery mode) or the “NOTIFICATION DATE” (electronic delivery mode) shown on the PTOL-90A cover letter attached to this decision.

STATEMENT OF THE CASE

Appellants appeal from a final rejection of claims 1 to 10, 12 to 21 and 23 to 32 under authority of 35 U.S.C. § 134(a). Claims 11, 22 and 33 are withdrawn (App. Br. 2, middle). The Board of Patent Appeals and Interferences (BPAI) has jurisdiction under 35 U.S.C. § 6(b).

We affirm the rejections.

Appellants' invention relates to a method and apparatus for caching fragments that make up a web page. In the words of Appellants:

The issues regarding any potentially robust distributed caching solution are complicated by the trend toward authoring and publishing Web content as fragments. A portion of content is placed into a fragment, and larger content entities, such as Web pages or other documents, are composed of fragments, although a content entity may be composed of a single fragment. Fragments can be stored separately and then assembled into a larger content entity when it is needed.

These runtime advantages are offset by the complexity in other aspects of maintaining and using fragments. Fragments can be assigned different lifetimes, thereby requiring a consistent invalidation mechanism. In addition, while fragments can be used to separate static portions of content from dynamic portions of content so that static content can be efficiently cached, one is confronted with the issues related to the caching of dynamic content, as discussed above. Most importantly, fragment assembly has been limited to locations within enterprise boundaries.

Therefore, it would be advantageous to have a robust distributed caching technique that

supports caching of fragments and other objects. Moreover, it would be particularly advantageous to co-locate fragment assembly at cache sites throughout a network with either much regard or little regard for enterprise boundaries as is deemed necessary, thereby reducing processing loads on a serving enterprise and achieving additional benefits of distributed computing when desired. In addition, it would be advantageous to have a consistent naming technique such that fragments can be uniquely identified throughout the Internet, i.e. so that the distributed caches are maintained coherently.

(Spec. 13, l. 6 to Spec. 14, l. 7).

SUMMARY OF THE INVENTION

A method, a system, an apparatus, and a computer program product are presented for a fragment caching methodology. After a message is received at a computing device that contains a cache management unit, a fragment in the message body of the message is cached. Subsequent requests for the fragment at the cache management unit result in a cache hit. The cache management unit operates equivalently in support of fragment caching operations without regard to whether the computing device acts as a client, a server, or a hub located throughout the network; in other words, the fragment caching methodology is uniform throughout a network.

A FRAGMENT header is defined to be used within a network protocol, such as HTTP; the header associates metadata with a fragment for various purposes related to the processing and caching of a fragment. Cache ID rules accompany a fragment from an origin server; the cache ID rules describe a method for forming a unique cache ID for the fragment such that dynamic content can

be cached away from an origin server. A cache ID may be based on a URI (Uniform Resource Identifier) for a fragment, but the cache ID may also be based on query parameters and/or cookies. Dependency IDs, which may differ from a cache ID or a URI for a fragment, may be associated with a fragment so that a server may initiate an invalidation operation that purges a fragment from a cache.

A FRAGMENTLINK tag is used to specify the location in a fragment for an included or linked fragment which is to be inserted into the fragment during fragment or page assembly or page rendering. Performance for processing fragments can be improved by obtaining multiple fragments in a single request message. A cache management unit is able to generate a request message for multiple fragments when multiple FRAGMENTLINK tags are found within a single fragment. A cache management unit is also able to response [sic] to a request message containing multiple requests for fragments that may be found within its cache.

(Spec. 15 to 16).

The following illustrates the claims on appeal:

Claim 1:

1. A method for processing objects within a data processing system in a network, the method comprising:

searching a cache to determine that a set of fragments associated with a set of source identifiers are not in the cache, wherein a source identifier identifies a source location for obtaining a fragment;

sending a first request message comprising
the set of source identifiers; and

receiving a first response message
comprising the set of fragments.

The prior art relied upon by the Examiner in rejecting the claims on
appeal is:

Donohue	US 5,987,480	Nov. 16, 1999
Daugherty	US 6,345,292 B1	Feb. 05, 2002
		(filed on Dec. 03, 1998)

N. Borenstein & N. Freed, "MIME (Multipurpose Internet Mail Extensions): Mechanisms for Specifying and Describing the Format of Internet Message Bodies," The Internet Engineering Task Force (IETF), June 1992, <http://www.ietf.org/rfc/rfc1341.txt?number=1341> (hereinafter "RFC 1341")

Kip Hampton, "High Performance XML Parsing with Sax," Feb. 14, 2001, XML.com, <http://www.xml.com/lpt/a/728>.

SAX, "About Sax," <http://sax.sourceforge.net/about.html> (last modified Nov. 28, 2001).

SAX, "Genesis," <http://sax.sourceforge.net/sax1-history.html> (last modified Nov. 28, 2001).

SAX, "FAQ," <http://sax.sourceforge.net/faq.html> (last modified Nov. 28, 2001).

Jech, "Set Theory." Stanford Encyclopedia of Philosophy (2002), available at <http://plato.stanford.edu/entries/set-theory/>.

Microsoft Computer Dictionary 443 (5th ed. 2002).

REJECTIONS

The Examiner rejects the claims as follows:

R1: Claims 1, 4, 5, 8, 12, 15, 16, 19, 23, 26, 27 and 30 stand rejected under 35 U.S.C. § 102(e) for being anticipated by Daugherty.

R2: Claims 2, 3, 13, 14, 24, and 25 stand rejected under 35 U.S.C. § 103(a) for being obvious over Daugherty in view of Official Notice.

R3: Claims 6, 7, 17, 18, 28 and 29 stand rejected under 35 U.S.C. § 103(a) for being obvious over Daugherty in view of RFC 1341

R4: Claims 9, 10, 20, 21, 31, and 32 stand rejected under 35 U.S.C. § 103(a) for being obvious over Daugherty in view of Donohue.

We will review the rejections in the order argued. We have only considered those arguments that Appellants actually raised in the Briefs. Arguments Appellants could have made but chose not to make in the Briefs have not been considered and are deemed to be waived. *See* 37 C.F.R. § 41.37(c)(1)(vii).

ISSUE

The key issue is whether Appellants have shown that the Examiner erred in rejecting the claims under 35 U.S.C. § 102(e) and 35 U.S.C. § 103(a). The issue specifically turns on whether the references, especially Daugherty, teach “a set of fragments associated with a set of source identifiers” as claimed.

FINDINGS OF FACT

The record supports the following findings of fact (FF) by a preponderance of the evidence.

1. Appellants have invented a method and apparatus for caching dynamic content within e-business web pages to speed their display on user terminals (Spec. 9, middle). Modern web sites are comprised of fragments, which are assembled into the content of the site (Spec. 13, middle). These fragments have unique identifiers identifying the location for obtaining the fragment, so the caching of the fragments involves the caching of these identifiers (Spec. 14, top). Appellants' system determines that when a set of fragments associated with a set of source identifiers is not in a cache, a message is sent comprising the set of source identifiers, resulting in a response to satisfy the request (Claim 1; Abstract).
2. The Daugherty reference teaches building web pages from fragments called "clips" (col. 1, l. 63). A first-level cache contains the most used clips called from a server (col. 1, bottom). When a clip is not in the first level cache, a second level cache must supply that clip, which it takes from a second server (*id.*; col. 2, top).

PRINCIPLES OF LAW

Appellants have the burden on appeal to the Board to demonstrate error in the Examiner's position. *See In re Kahn*, 441 F.3d 977, 985-86 (Fed. Cir. 2006) ("On appeal to the Board, an applicant can overcome a rejection [under § 103] by showing insufficient evidence of prima facie obviousness or by rebutting the prima facie case with evidence of secondary indicia of nonobviousness.") (quoting *In re Rouffet*, 149 F.3d 1350, 1355 (Fed. Cir. 1998)).

"In reviewing the [E]xaminer's decision on appeal, the Board must necessarily weigh all of the evidence and argument." *In re Oetiker*, 977 F.2d 1443, 1445 (Fed. Cir. 1992).

"Though understanding the claim language may be aided by explanations contained in the written description, it is important not to import into a claim limitations that are not part of the claim. For example, a particular embodiment appearing in the written description may not be read into a claim when the claim language is broader than the embodiment." *Superguide Corp. v. DirecTV Enterprises, Inc.*, 358 F.3d 870, 875 (Fed. Cir. 2004).

For post-prosecution analysis, our guiding courts use the following analysis:

A patent claim is not invalid for indefiniteness unless it is insolubly ambiguous; therefore, if meaning of the claim is discernible, the claim is sufficiently clear to avoid invalidity on indefiniteness

grounds, even if interpreting the claim is difficult, and construction is one over which reasonable persons could disagree.

See Bancorp Services LLC v. Hartford Life Insurance Co., 359 F.3d 1367 (Fed. Cir. 2004).

However, during prosecution before this Office, while Appellants still have the opportunity to amend the claims, a higher standard of clarity is required:

In particular, rather than requiring that the claims are insolubly ambiguous, we hold that if a claim is amenable to two or more plausible claim constructions, the USPTO is justified in requiring the applicant to more precisely define the metes and bounds of the claimed invention by holding the claim unpatentable under 35 U.S.C. § 112, second paragraph, as indefinite.

Ex parte Kenichi Miyazaki, 89 USPQ2d 1207, 1211 (precedential opinion) (BPAI 2008).

Our reviewing court states in *In re Zletz*, 893 F.2d 319, 321 (Fed. Cir. 1989) that “claims must be interpreted as broadly as their terms reasonably allow.” “[T]he words of a claim ‘are generally given their ordinary and customary meaning.’” *Phillips v. AWH Corp.*, 415 F.3d 1303, 1312 (Fed. Cir. 2005) (en banc) (internal citations omitted). “[T]he ordinary and customary meaning of a claim term is the meaning that the term would have to a person of ordinary skill in the art in question at the time of the invention, i.e., as of the effective filing date of the patent application.” *Id.* at 1313.

ANALYSIS

*Arguments with respect to the rejection
of claims 1 to 10, 12 to 21 and 23 to 32
under 35 U.S.C. § 102(e) and 35 U.S.C. § 103(a) [R1-R4]*

The Examiner has rejected all of the remaining noted claims for being anticipated by the Daugherty reference, or for being obvious over Daugherty in combination with some other reference. Appellants' key argument for rejections R1 and R2 can be stated, "[t]he cited art does not meet the properly interpreted 'set of fragments' and 'set of source identifiers' requirements." (App. Br. 9, middle).

Appellants point out, and the Examiner does not dispute, that the reference Daugherty retrieves clips missing from a first cache 110 "one at a time from another (second) cache source." (App. Br. 6, bottom; Daugherty col. 6, ll. 39 to 41; col. 7, ll. 9 to 19). Appellants' complaint is not the Examiner's interpretation of the Daugherty reference, but that "the Examiner proposes an unreasonably broad and wholly unsupported definition of 'set of source identifiers' and then asserts that Daugherty meets this overbroad definition." (App. Br. 7, middle).

The key limitations in dispute are "searching a cache to determine that a set of fragments associated with a set of source identifiers are not in the cache" and "sending a first request message comprising the set of source identifiers." From the Specification we know that Appellants may accumulate a plurality of these identifiers into one message (Abstract, Spec. 167). Consider, is this reflected in the wording of the claims?

While before the Office, claims may be interpreted in a fair but broad manner, as Appellants have the right to amend the claims while they are still pending. (*See In re Prater*, 415 F.2d 1393, 1405 (CCPA 1969)). Claims

will be interpreted in the light of the Specification, but limitations of the Specification will not be read into the claims. (*See Superguide Corp.* cited above.).

In the claims before us, the Examiner has not erred in reading the claim's language of a "message comprising the set of source identifiers" on Daugherty's transfer of a single clip at a time. Appellants challenged that interpretation of their claim language (App. Br. 7, bottom). In response, the Examiner presented detailed arguments and evidence from recognized authorities that a set can include a single member, "also known as a singleton." (Ans. 8, middle and bottom). Appellants point to the term "set of fragments," emphasizing that the term pluralizes the word fragments (App. Br. 8, bottom). We agree that the English expression contains a plural word, but that is merely syntax. One does not say "set of fragment". It is clear from the sources quoted by the Examiner that the full term, set of fragments, commonly and not unreasonably refers to a set containing one or more fragments (Ans. 8, 9). Daugherty teaches the transfer of a set, the singleton set, of clips, and is a sound basis for the rejection.

With regard to rejection R3, Appellants argue that Daugherty fails to disclose the use of MIME for a response message. We endorse and adopt the Examiner's position that the combination of RFC and Daugherty teach that limitation (Ans. 5, bottom).

CONCLUSIONS OF LAW

Based on the findings of facts and analysis above, we conclude that Appellants have not shown that the Examiner erred in rejecting claims 1 to 10, 12 to 21, and 23 to 32.

DECISION

We affirm the Examiner's rejections R1 to R4 of claims 1 to 10, 12 to 21, and 23 to 32.

No time period for taking any subsequent action in connection with this appeal may be extended under 37 C.F.R. § 1.136(a)(1)(iv).

AFFIRMED

peb

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